Mimulus Memo

California Native Plant Society
KERN CHAPTER

MARCH 2023

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EVENTS

MARCH

14 & 21 – "Ditch Your Lawn"
Contact *Monica Tudor*

16 – Meeting 6:00 – 8:30 pm
Program:"Atwell Island"

APRIL

Date TBA - *Mimulus Pictus* Picnic

Ynés Enriquetta Julietta Mexía (1870-1938): **Botanist, Explorer, Adventurer, Conservationist, Writer and Lecturer**

Part One

by Nancy Nies

HOW FAR WOULD YOU BE WILLING TO GO, TO DISCOVER plants new to science? If, on your first botanical expedition, you had been seriously injured in a fall down a cliff, but felt you could accomplish more on your own than with a group, would you decide to undertake future research trips alone? Would you travel the Americas from Alaska to Tierra del Fuego, braving difficult, dangerous conditions like ice and snow, heat and humidity, torrential rains, nearly impassable mud, bush-filled ravines, rugged terrain, precipitous climbs, and erupting volcanoes? Would you spend two and a half years exploring along the entire length of the Amazon River, most of that time by canoe or raft? Now, consider the fact that **Ynés Mexía**, the extraordinary woman who did all this and much more, was in her fifties and sixties at the time, in the 1920s and 1930s.

by permission of artist

Ynés Mexía — Illustration by Rafael López, from the book **BRAVO! Poems About Amazing Hispanics** (Margarita Engle, 2017).

Trying Times

The first four decades of Ynés Mexía's life were difficult, to say the least. She was born in 1870 in Washington D.C., to a Mexican diplomat father, **Enrique Mexía**, and an American mother, **Sarah Wilmer Mexía.** Her parents separated soon after, and her father returned to Mexico. Ynés spent her early childhood with her mother and six half-siblings. The family moved a number of times and Ynés — a shy, quiet girl — was sent to boarding school, where she was depressed and lonely. When she was 17, Ynés moved to Mexico, where she helped her father run his ranch for ten years. After her father's death in 1896, Ynés spent years in court suing his mistress over inheritance of the ranch, and was finally successful. Between 1897 and 1906, she married twice. Her first husband died in 1904; her second marriage ended in divorce, when her husband bankrupted the ranch. At the age of 39, struggling with depression and suffering from a breakdown, Ynés left Mexico and moved to San Francisco for medical and psychiatric care.

There, she did social work, and, encouraged by her doctor to engage in physical activity in the out-of-doors, she joined the recently founded **Sierra Club**.

Photo courtesy of the Archives of the California Academy of Sciences.

Ynés Mexía's photograph of a nature class with Dr. Bryant, UC Berkeley professor, under the Jeffrey pine on Sentinel Dome, Yosemite, 2 July 1921.

The club's outings proved life-changing for her, leading her to develop an interest in northern California's plants and trees. She found great solace in nature, and began to participate in California's early environmental movement. Hearing of the logging of redwoods, she became, according to the **National Park Service** (**NPS**), *"a fierce conservationist and . . . early pioneer in fighting to preserve the redwood forests of Northern California."* Ynés Mexía would eventually leave much of her estate to the Sierra Club and the **Save the Redwoods League**, which would purchase, in her memory, **Fern Canyon** in **Prairie Creek Redwood State Park**.

Passion for Plants

Mexía's interest in plants became a passion, and set her on the path toward the happiness and personal fulfillment she had long sought. In 1921, at the age of 51, she enrolled at the **University of California** in **Berkeley**, and began taking undergraduate courses in botany. Though she would never earn a degree, this "late bloomer" would make a name for herself in botany. In 1925 she would join what was to be a two-month trip to western Mexico, led by Stanford botanist **Roxanna Ferris**. Excited about the upcoming trip, Ynés wrote to renowned botanist **Alice Eastwood**, whom she had met while taking summer classes at the **California Academy of Sciences,** and who was to become her friend and mentor, *"I have a job where I produce something real and lasting."* She arranged to collect for Eastwood as well as Stanford on that trip.

Photo by Barbara Dye, Peace Corps, Mexico

Lasianthaea macrocephala, previously named *Zexmenia mexiae* in honor of its discoverer, Ynés Mexía. Bosque de la Primavera Biosphere Reserve near Guadalajara, 17 September 2011.

On that first plant-collecting trip, deciding she preferred to work alone, she purchased her own supplies and left the group. Soon after, as she reached for a plant, Ynés fell off a cliff, breaking ribs and injuring her hand. Before her fall, however, she had already collected 500 botanical specimens, including several new species, one of which — *Mimosa mexiae* — was the first of fifty species that would eventually be named for her. After recovering from her injuries in California, Mexía would return to Mexico for two years, traveling and collecting plants. It was in 1926, in the state of Jalisco, that she would find a new genus of sunflowers, to be named *Mexianthus* in her honor. Later on, she would discover *Spumula*, a new genus of rusts. Ynés Mexía had found the career that would give her life meaning. During her short, professional career as a botanist — only 13 years — Mexía collected over 150,000 plant specimens for institutions in the U.S., including 500 new species and the two new genera mentioned above.

> I have a job where I produce something real and lasting.

Her listing in **Notable Women Scientists (1999)** states: *"[Mexía] was known and praised for her meticulous, exacting work and her skills as a botanical collector."* It also notes that she funded all of her collecting excursions through the sale of her specimens to institutions and private collectors, receiving twenty cents per specimen. The specimens Ynés collected are kept at the **California Academy of Sciences**, as well as **Philadelphia's Academy of Natural Sciences, Chicago's Field Museum of Natural History**, **Harvard's Gray Herbarium**, the **New York Botanical Garden**, the **Smithsonian**, the **University of California, Berkeley**, the **U.S. National Arboretum**, and several museums and botanical gardens in Europe.

Public domain. Wikimedia Commons.

Specimen of *Arbutus xalapensis* (madrone) collected by Ynés Mexía in the western Sierra Madre mountains, Jalisco, Mexico, 29 January 1927.

Explorer Extraordinaire

An article on the **WOW STEM** (*"**A World of Women in Science, Technology, Engineering and Mathematics***) website bears the title *"**Ynés Mexía: Explorer Extraordinaire**"* — and with good reason. Between 1925 and 1938, Mexía would make eight major collecting trips, ranging in length from several months to three years, which took her to Mexico, Alaska, Brazil, Peru, Ecuador, Bolivia, Argentina, Chile, and the American West.

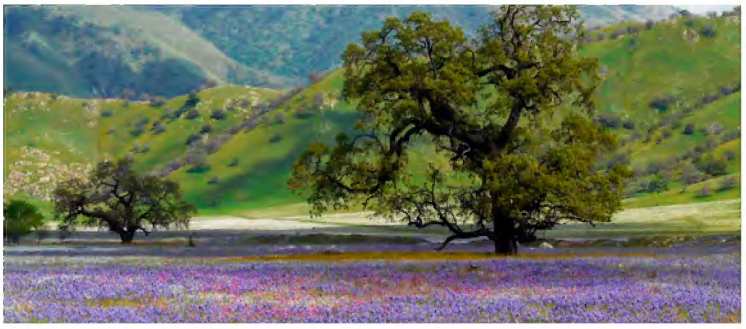
In her first published account of a plant-collecting trip, ***Botanical Trails in Old Mexico — The Lure of the Unknown*** *(1929)*, Mexía relates that she worked along a stream *"arched with many deciduous trees where a delightful but elusive fragance kept me seeking until I traced it to the lovely creamy blossoms of the Clusia salvinii... a rather small tree with thick glossy leaves and a smooth trunk."* To quote from **Jess Romeo**'s article *"**Ynés Mexía: Botanical Trailblazer,**"* (JSTOR Daily, 29 September 2020): *"Her passion and enthusiasm for botanical collecting sings throughout her writings."*

In 1928 Mexía became the first person to do botanical research in what is today Alaska's **Denali National Park.** During her summer stay in Alaska, she traveled mostly by sled-dog team. Once, she and her dogs were stranded by a bad snowstorm. Denali Historian **Erik Johnson,** in *"**Ynés Mexía, Denali's First Botanist**,"* quotes from **Tom Walker**'s **McKinley Station:** *"When she departed from the park, Mexía left several stacks of pressed plants that were nearly three feet high, and rangers transported them to McKinley Station with their dog teams. . .* [Ranger] *Fritz Nyberg . . . commented on the courage she demonstrated conducting her work in remote Alaska."* Johnson tells us that in a just a few weeks Mexía and her assistant, **Francine Payne**, had collected 365 plant types and a total of 6,100 specimens.

When she was 61, Ynés embarked on the adventure of her lifetime — a two-and-a-half-year Amazon expedition, which would take her by steamboat, dugout canoe and balsa raft from the great river's delta all the way to its source in the Andes, and which would yield an incredible 65,000 specimens. During her time in the Amazon region, she spent three months living with an indigenous people of the Peruvian jungle, the Araguarunas. ***The Sierra Club Bulletin*** would publish her account of that trip, entitled *"**Three Thousand Miles up the Amazon**,"* in 1933. Here is Mexía's first impression of the Amazon rainforest: *"Beautiful as is the forest seen from the river, it is repelling to enter. The canopy is so dense that it cuts off all sunlight, prohibiting undergrowth. There are no trails; it is dark and dank, with crowding tree-trunks, tangling lianas, rotting logs everywhere, and oozy, treacherous soil."* **Martha Mullins**, in the January 2020 issue of the **Texas Plant Society**'s North-Central Texas Chapter newsletter, calls the story *"an enthralling account which features vivid descriptions of her exploits, showing her love of the outdoors, her adventurous spirit, and her fearlessness under almost unbearable conditions."*

Though the 150,000 specimens she collected offer compelling evidence to the contrary, Ynés said of herself: *"I am not a dyed-in-the-wool scientist. I am a nature lover and a bit of an adventuress and my collecting is secondary, even though very real and very important."* Mexía's accounts of her excursions regularly appeared in the publications of the **Audubon Society** and the **California Botanical Society**. In addition, she was a popular guest lecturer at meetings of scientific organizations in the Bay Area, where she captivated audiences with *"lantern-slide lectures"* of her expeditions. ✿

*(To be continued; **Part Two** will appear in the June issue.)*



CNPS

Conservation Notes:

by Fred Chynoweth

Legislative Advocacy Training!

A two-part training course is being developed by the state office on **Plant Advocacy Training**. If you want to learn how a bill becomes a law and how to engage with the legislature, please complete the form at: *https://forms.gle/VoFUP21dFSN2QMTw9*, or contact **Alvaro** at ***acasanova@cnps.org*** for more information.

Local advocacy is important for the protection of the environment. Important plant area maps are now available. CNPS has been cooperating with state agencies and international groups in coordinating conservation.

Outreach:

Anyone interested in helping with providing information about the Kern CNPS chapter at **Panorama Vista, February 25** at **8:00 am**, please contact **Fred Chynoweth** at *RDNMNT18@gmail.com*. We will also be doing the same at **WindWolves** at the **Spring Nature Festival, March 17th** and **18th.** ✿

Thank You to:

... **Maynard Moe, Emeritus Professor of Botany at CSUB** for his presentation on his version of *"The Flower Formula"* — a most helpful method of notation for the critical characteristics of flowering plants. ✿

Chapter Meetings

upcoming TOPICS

Thursday, March 16, 2023 - 7 pm
Presenter: Meagan Means
Topic: Atwell Island - one of few remaining area wetlands — wintering area for migratory birds, and a prime spot for viewing wildlife, and photography.

Note: A **field trip** to Atwell Island is planned for **March 25th,** *check chapter website for details*.

Thursday, April 20, 2023 - 7pm
Presenter: **Peyton Ellas,**
Topic: Blue Oak Nursery in Springville. Find out what she's growing.

Thursday, May 18, 2023 - 7pm
Presenter: Brandon Dunn
Topic: Kern Canyon Trail

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All in-person chapter meetings are held the **3rd Thursday** of each month.

*__Place:__ Most 3rd Thursday meetings will be held in the Larry E Reider Bldg., 2000 K St.
Park in the parking stucture east of the building and enter from doors on that side. Front doors lock at 5 pm. Check for signs indicating in which room meeting will be.

Meeting times: 6 –8:30 pm:
6 pm - Socializing, plant ID and gardening discussion groups; bring snacks
7 pm - Program presentation and a short business meeting. **Sabrina Mehtabuddi**n was nominatedto be **Secretary** and we will be voting on this at this meeting.

Ideas for speakers are welcome. Contact **Paul Gipe** (*pgipe@igc.org*). ✿

Upcoming Events — 2023

Saturday, March 18, 2023 - 9am-Noon
Volunteer Work Party
Location: Hot Springs Valley Wetlands
Join **Kern River Valley Heritage Foundation** for a maintenance day. We will be re-planting and weeding on the restoration site, clearing tumbleweeds, and removing trash. Please bring water, gloves, and a digging/ weeding tool or pitchfork for tumbleweeds. Also, if you would like, please bring a food or drink item to share.
Directions: Traveling southbound on Lake Isabella Blvd. turn right on Crestview Ave. (at CarQuest Auto Parts); take the next right onto Mayfair Rd., which leads to the gate to Hot Springs Valley Wetlands.
Contact: Kathy Dwyer (*todwyergm@gmail.com*) to let her know you are coming.

Tuesdays, March 14 & March 21 – 7pm -8:30pm
Ditch Your Lawn *with* Monica Tudor
Monica Tudor teaches a **two -day Levan Institute** program on removing your lawn and replacing it with native plants. This is a popular program and Monica is a dynamic presenter.
Location: Bakersfield College, Southwest Campus, Room 222, 9400 Camino Media, Bakersfield, CA
Fee: $20. **Register:** with the *Levan Institute*

Thursday, March 30 - 9am-5pm
Natural Communities Conference Bakersfield
Location: Hodel's, Liberty Hall Meeting Room, 5918 Knudsen Dr., Bakersfield, CA

The San Joaquin Valley Chapter's The Wildlife Society Natural Communities Conference is back in person! This one-day conference is an opportunity for biologists conducting research, management, regulation, and conservation activities for natural communities and biota in the San Joaquin Valley Chapter area to network and exchange information, ideas, results, and progress of their work.

In addition to the presentations, there will be a photo contest, silent auction, and field gear exchange. Breakfast, lunch, and afternoon snacks will also be provided. The formal announcement with further information, including registration, will be emailed and will be on our chapter website *https://wildlife.org/san-joaquin/* and social media platforms soon. Anyone is welcome to attend. Hope to see you there!
Contact: Erica Kelly at *ekelly@esrp.org* for questions or to submit an abstract. ✿.

Field Trips — 2023

Field trips had not been finalized at time of publication. Please check the chapter website for information on times and places of 2023 field trips. (*https://chapters.cnps.org/kern/events/*) ✿

Above: (*Urtica dioica* ssp. *holosericea) native* vs. introduced **Stinging Nettle** (*Urtica urens*).

Photos by Sasha Honig

Spines of the native stinging nettle.

Native Stinging Nettle
by Sasha Honig

THE NATIVE STINGING nettle at **Panorama Vista Preserve** (PVP) is *Urtica dioica* ssp (subspecies) *holosericea*. The non-native is *Urtica urens*, **dwarf nettle** (native to Eurasia), an annual. Another subspecies – *Urtica dioica* ssp *dioica* – is also native to Eurasia, but not found at PVP. *Urtica dioica* ssp *holosericea*, - the native - sends up tall stalks each year and dies back each winter.

Urtica dioica ssp. *holosericea* is prolific in the riparian areas of the Preserve. The tall stalks are not easy to avoid and thus care must be taken when working one's way through an unmaintained riparian area. Contact with the tiny spines will result in a stinging sensation that may last half an hour or more. Horse people try to keep the horse trails clear of *U. dioica* ssp. *holosericiea* because it is an irritant to their horses. ✿

President's Message: *Ceanothus crassifolius* var. *planus* in Kern County

by Rich Spjut

IN THE SEPTEMBER 2015 ISSUE OF THE ***Mimulus Memo***[i], I reported on *Ceanothus* species in Kern County, including the **common buckbrush**, *Ceanothus cuneatus*. **The World Botanical Associates** (WBA) webpage. "Ceanothus[ii]", presents images of many Kern County species, which can be easily accessed by typing "Ceanothus" followed by "World Botanical" in a search engine. The Ceanothus web page includes a key to species that have been interpreted to occur in Kern County as well as those already known from the county published by **Maynard Moe** in his **Kern County Flora** (CNPS 2016).

Photo by Richard Spjut

Ceanothus cuneatus showing flowers with young fruit appearing as six spherical green balls surrounding the style terminally divided into three stigmas. The 3 stigmas indicate a 3-carpellate gynoecium, the 3-lobed ovary itself at base is hardly distinguishable from the other three surrounding lobes, which become horn-like projections as the fruit matures. Note also that stipules are difficult to see at leaf bases because they often soon disappear. Collected along Old Kern Canyon Road in Douglas oak woodland between Bodfish and Miracle HotSprings.

In Kern County, *C. cuneatus* appears to intergrade with *C.* cf. *vestitus*[iii], thus. they can be difficult to distinguish from one another. One helpful character that needs more study is the young fruit. The three-carpellate ovary appears 6-lobed in *C. cuneatus* plants occurring in Douglas oak and Gray pine woodlands. The ovary is actually 3-lobed, and the outer larger lobes are "horns" that shrink as the fertile portion of the ovary grows larger and matures. The *C. vestitus* ovary, in contrast, appears scarcely lobed when young and the horns when present are spikelike. Fruit at maturity is a coccarium[iv], the carpels separate and open along their ventral sutures and partly along dorsal sutures, preceded by separation of inner pericarp layer, explosively breaking from the disk, leaving behind half of an empty 3-partitioned cup.

Another helpful character is the presence or persistence of stipules, appearing as pair of appendages on twigs near the base of leaf margins.

One problem I still have is where **Edward Greene** obtained the isotype of *C. vestitus*, for which I presented a partial image of in the 2015 ***Mimulus Memo***. It is rather distinctive in having somewhat of a round leaf slightly folded up along the mid vein and by the marginal teeth extending below the mid region. I mention this because I have yet to see this in the field. *Ceanothus vestitus* was described by Greene in 1890 from "borders of the pine forest on the mountains near Tehachapi." I have looked for it on Bear Mountain, where I saw mostly *C. cuneatus* and a specimen from Tehachapi Park on SEINet is also *C. cuneatus* similar to that seen on Bear Mtn. and Breckenridge Mtn. My inclination is to treat what is commonly regarded as *C. vestitus* in Kern County as possibly a hybrid or a distinct species that differs from *C. pauciflorus* described from Mexico, an older name for a species that can be distinguished by its stipules, appearing like goat horns as shown in the 2015 *Mimulus*.

One species not generally recognized in Kern County is *C. crassifolius* (**hoaryleaf ceanothus**), the common name in reference to the white undersurface of leaves that also differ in being toothed along margins, appearing almost entire in the holotype of var. *planus*, distinguished from the typical variety by veins appearing more conspicuous on the white undersurface of leaves.

Ceanothus crassifolius var. *planus*, collected near Keene, RSA 398569

In Kern County, *C. crassifolius* var. *planus* is known from a single specimen collected by **H. L. Bauer**, 1 April, 1928, from near Keene; otherwise, the species and variety is known only from the "coastal slopes of the western Trans-

verse Ranges of Santa Barbara, Ventura and Los Angeles Counties" (David Fross & Dieter Wilken, Ceanothus, Timber Press, 2006). This geographic distribution of this variety might be compared to the rare *Sidalcea hickmannii* ssp. *parishii* (1B2), whose occurrence on Piute Mtn. in Kern County is not that far from where *C. crassifolius* var. *planus* was collected at Keene.

Ceanothus cuneatus (holotype) at California Academy of Sciences.

Recently, upon my request, I received an image of the Bauer specimen from the **California Botanic Garden** at **Claremont;** part of which is shown here (previous page) along with a comparison to the holotype at the **California Academy of Sciences** (image above) that was collected in Ventura County. It differs from the Kern County *C. cuneatus* by the conspicuous and persistent stipules, appearing like chocolate chips on cookies that persist on twigs; those of *C. cuneatus* are smaller and more scaly, brown to blackish and difficult to see because they appear to wear off soon after new leaves appear. *Ceanothus vestitus* generally has similar size reddish to orange gummy-like stipules and minute cotton-like balls of hairs that develop in rows along veins on the undersurface of leaves. These are described as *"microscopic tomentulose hairs that cover the sunken stomata"* (Fross & Wilken, Id.). The latter I regard as a more useful character feature for recognizing *C. vestitus*. In the image shown at the bottom of the previous column, taken on CNPS field to **Tejon Ranch**, Antelope Valley portion, 17 April 2016, the stomata crypts are marked by the white specks. ✿

ENDNOTES:

i - President's Message: *Status on Trees and Shrubs of Kern County, California*. CNPS Kern Chapter website, Newsletters, *Mimulus Memo* [September 2015]. Publications by **Rich Spjut** with images comparing *C. vestitus* isotype with *C. pauciflorus* topotype, *C. cuneatus* on Breckenridge Mtn. and *C. vestitus* [cf.]

ii - *Ceanothus*, Rhamnaceae. *http://www.worldbotanical.com/ceanothus.htm*. Last updated, Aug 2016.

iii - Cf. is abbreviation for confer. Used in this article to indicate a particular specimen's similarity to the type (isotype), which defines the species and its characteristics. *Ceanothus vesitutus* differs by the white undersurface of leaves with stomata crypts covered by minute white cotton-ball like hairs developing in rows along veins, and by the teeth along leaf margins developing to below the mid region of the leaf.

iv - Spjut, R. W. 1994. *Systematic Treatment of Fruit Types*. Memoirs of the **New York Botanical Garden** Vol. 70, 182 pages, numerous illustrations for 95 different kinds of fruit.

v - My thanks to the curator **Mare Nazarre** and assistant **Carrie Baldwin** at **California Botanic Garden** for providing a digitized image of the *Ceanothus* specimen collected by **H. L. Bauer** from near Keene, California (RSA 398569).

California Native Plant Society

CNPS is the leader for providing reliable information on California native plants and plant conservation. Comprehensive information about California's flora and vegetation communities is available throughout the state for conservation and educational purposes. CNPS's leadership influences personal ethics and actions, as well as public policy for native plant protection.

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The Kern Chapter of the California Native Plant Society currently meets the third Thursday of each month via Zoom:
Chapter website: *kern.cnps.org*

The California Native Plant Society is a non-profit organization dedicated to the conservation of California native plants and their natural habitats, and to increasing the understanding, appreciation, and horticultural use of native plants.

CNPS has 31 chapters throughout the state and membership is open to all persons – professional and amateur – with an interest in California's native plants. Members have diverse interests including natural history, botany, ecology, conservation, photography, drawing, hiking and gardening. As a Kern County resident, your membership includes **Flora Magazine**, a quarterly journal with interviews, conservation updates, gardening advice. **Artemesia**, CNPS's scientific journal and **The Mimulus Memo**, the Kern Chapter newsletter published quarterly.

Join CNPS or renew your membership online at *cnps.org* .
Membership levels: $25, $50, $120, $500 ($25 minimum)
Go Perennial at $5/month

To **unsubscribe/subscribe** to Kern CNPS email communications members should contact: *membership@cnps.org* (916) 738-7604

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California Native Plant Society
KERN CHAPTER

Mimulus Memo

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